

INFORMATION DISCLOSURE
CITATION

ATTY. DOCKET NO.

839-1331

SERIAL NO.

10/065,108

APPLICANT

BUNKER

(Use several sheets if necessary)

FILING DATE

GROUP

September 18, 2002

3746

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	FILING DATE		
				CLASS	SUBCLASS	IF APPROPRIATE
TM	2,938,333	5/1960	Wetzler			
	3,229,763	1/1966	Rosenblad			
	3,664,928	5/1972	Roberts			
	3,899,882	8/1975	Parker			
	4,158,949	6/1979	Reider			
	4,184,326	1/1980	Pane, Jr. et al.			
	4,838,031	6/1989	Cramer			
TM	5,353,865	10/1994	Adiutori et al.			

FOREIGN PATENT DOCUMENTS

DOCUMENT	DATE	COUNTRY	TRANSLATION		
			CLASS	SUBCLASS	YES
TM	61-280390	12/1986	Japan		
TM	9-217994	8/1997	Japan		
TM	JP-408110012-A	4/1996	Japan		

OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

TM	"Corporate Research and Development Technical Report Abstract Page and Sections 1-2," Bunker et al., October 2001.
	"Corporate Research and Development Technical Report Section 3," Bunker et al., October 2001.
	"Thermohydraulics of Flow Over Isolated Depressions (Pits, Grooves) in a Smooth Wall," Afanas'yev et al., Heat Transfer Research, Vol. 25, No. 1, 1993.
	Mass/Heat Transfer in Rotating Dimpled Turbine-Blade Coolant Passages," Charya et al., Louisiana St. University, 2000.
	"Effect of Surface Curvature on Heat Transfer and Hydrodynamics within a Single Hemispherical Dimple," Proceedings of ASME TURBOEXPO 2000, May 8-11, 2000, Munich Germany.
	"Concavity Enhanced Heat Transfer in an Internal Cooling Passage," Chyu et al., presented at the International Gas Turbine & Aeroengine Congress & Exhibition, Orlando, Florida, June 2-5, 1997.
	"Heat Transfer Augmentation Using Surfaces Formed by a System of Spherical Cavities," Belen'kiy et al., Heat Transfer Research, Vol. 25, No. 2, 1993.
	"Experimental Study of the Thermal and Hydraulic Characteristics of Heat-Transfer Surfaces Formed by Spherical Cavities," Institute of High Temperatures, Academy of Sciences of the USSR. Original article submitted November 28, 1990.
	"Turbulent Flow Friction and Heat Transfer Characteristics for Spherical Cavities on a Flat Plate," Afanasyev et al., Experimental Thermal and Fluid Science, 1993.
TM	"Convective Heat Transfer in Turbulized Flow Past a Hemispherical Cavity," Heat Transfer Research, Vol. 25, Nos. 2, 1993.

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*Examiner

T. KIM

Date Considered

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
TK	5,460,002	10/1995	Correa			
	5,651,662	7/1997	Lee et al.			
	5,758,503	6/1998	Dubell et al.			
	6,134,877	10/2000	Alkabie			
	6,237,344	5/2001	Lee			
	Pub # 2001/005241 A1	12/2001	Pantow et al.			
	6,334,310	1/2002	Sutcu et al.			
	6,408,629	6/2002	Harris et al.			
	6,412,268	7/2002	Cromer et al.			
	6,494,044	12/2002	Bland			
TR	6,526,756	3/2003	Johnson et al.			

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TK	Patent Application Serial No. 10/010,549, filed November 8, 2001.
	Patent Application Serial No. 10/063,467, filed April 25, 2002.
	Patent Application Serial No. 10/162,755, filed June 6, 2002.
	Patent Application Serial No. 10/162,766, filed June 6, 2002.
	Patent Application Serial No. 10/064,605, filed July 30, 2002.
	Patent Application Serial No. 10/065,495, filed October 24, 2002.
	Patent Application Serial No. 10/065,115, filed September 18, 2002.
	Patent Application Serial No. 10/065,814, filed November 22, 2002.
TR	Patent Application Serial No. 10/301,672, filed November 22, 2002.

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